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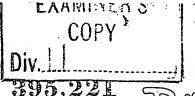
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#### PATENT SPECIFICATION

No. 30,606 / 32. Application Date: Oct. 31, 1932.





Complete Accepted: July 13, 1933.

### COMPLETE SPECIFICATION.

## Improvements in or relating to Ventilated Insoles for Boots and Shoes.

I, Otto Müller, of No. 52, Bethmannstrasse, Frankfurt on the Main, Germany, of German Nationality, do hereby delare the nature of this invention and 5 in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :-

This invention relates to a ventilated 10 insole which is arranged between the outer sole and the inner sole of the shoe and is intended firstly to impart a good supporting surface adapted to conform to the shape and unevennesses of the foot 15 and secondly to allow a perfect accommodation of the perspiration of the foot.

The ventilated insole according to the invention consists of a grid-shaped framework composed of narrow bars 20 arranged on the edge to form a supporting surface without raised portion, which hars only occupy a small percentage of the total surface area as compared with spaces within the bars, 25 ventilated insole being fitted between the remaining parts of the shoe so that air-filled spaces and the bars are directly in contact with the inner sole of the shoe, whereas on the side directed towards the 30 outer sole the spaces are preferably provided with a thin covering.

By this construction the frame work can easily yield laterally and in itself under the pressure of the foot resting 35 thereon, so that it adapts itself to all unevennesses of the foot. Moreover the perspiration of the foot can pass through perforations in the insole, into the spaces of the framework, the continuous alter-40 nating compression and expansion of the framework during walking exerting a favourable suction effect.

The framework may be produced with the aid of relatively thick textile threads 45 which are woven or plaited to form the grid and thus form the supporting surface, or a flat solid material of the necessary thickness can be pressed or stamped so that the ribs or bars of the 50 necessary thickness are formed at suit-Rubber is most able distances apart. suited for making the ventilated insole according to the latter procedure. [Price 1/-]

Insoles of different kinds are known in which a grid-shaped layer of rubber or the like is employed, these insoles being covered towards the ordinary inner and open towards the outer sole of the shoe so that they are not capable of accommodating the moisture entering from the insole. The known insoles are likewise mostly provided with raised portions or projections on one or both sides, within which the air circulates, whereas according to the invention both the upper and lower sides of the framework form a uniformly high and therefore level surface on both sides.

An embodiment of the invention is illustrated in the accompanying drawing in which:-

Fig. 1 shows in perspective view the arrangement of the ventilated insole between the ordinary outer and inner sole of the shoe.

Fig. 2 is a cross section showing the ventilated insole in a shoe.

Fig. 3 shows in perspective view a ventilated insole made of pressed solid material.

In the drawing b designates the ventilated insole which according to the construction illustrated in Fig. 1 is composed of plaited textile threads, whereas in Figs. 2 and 3 it is stamped from solid rubber material. This insole b is formed by bars of maximum height of a few millimetres, and arranged so that they only occupy a small percentage of the total surface area as compared with the spaces within the bars.

The framework of this insole is so firm that it is sufficiently resistant to serve as supporting surface even under full load.

An ordinary shoe inner sole a provided with perforations is arranged over the ventilated insole b. Consequently the perspiration from the foot can pass through the shoe inner sole a into the spaces in the ventilated insole b. The The 100 spaces of the insole b are provided on their lower side with a covering c which is so constructed that no moisture can penetrate into the interior of the shoe and consequently the shoe inner sole a 105

celluloid varnish, copal varnish, rubber the spaces are directly against the shoe or a similar substance. The water proof layer is coated in a similar manner if mediate layers. the ventilated insole is pressed or stamped 15 from solid material as illustrated in Figs

2 and 3.

The ventilated insole b is arranged between the shoe inner sole a and the filling composition d or, if this is omitted 20 between the shoe inner sole a and the the ventilated insole b are directly below a water-proof closing layer toward the the perforated shoe inner sole a and it outer sole of the shoe rests; with its waterproof layer c on the composition d or directly on the outer. Dated this 31st day of October, 1932. sole e.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed. I declare that what I performed, I declare that what I claim is

and the foot remain dry. The water 1—A boot or shoe, characterized in proof layer c consists preferably of a that a ventilated insole consisting of a fabric which is provided for example in grid-shaped framework formed of narrow known manner with an adhesive sub- bars standing on edge and forming a 35 b stance by means of which it adheres to supporting surface without projecting the framework forming the ventilated raised portions, which bars occupy only the framework forming the ventilated raised portion of the total surface area. insole b. The under side of the frame a small portion of the total surface area work directed towards the outer sole of as compared with the spaces within the the shoe has a coating of waterproof bars is arranged between the outer and 40 10 tightly adhering elastic material such as perforated inner soles of the shoe so that inner sole without any covering or inter-

> 2. A boot or shoe as claimed in claim 45 1. characterized in that the framework of the ventilated insole is formed from solid material by stamping or pressing apertures therein.

3 —A boot or shoe as claimed in claim 50 1: characterized in that the framework outer sole e, so that the open spaces of of the ventilated insole is provided with

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395,221 COMPLETE SPECIFICATION I SHEET miller Fig.2. This Drawing is a reproduction of the Original on a reduced scale.

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